import json

import random

import urllib.request

# Server API URLs

QUERY = "<http://localhost:8080/query?id=>{}"

# 500 server request

N = 500

def getDataPoint(quote):

""" Produce all the needed values to generate a datapoint """

""" ------------- Update this function ------------- """

stock = quote['stock']

bid\_price = float(quote['top\_bid']['price'])

ask\_price = float(quote['top\_ask']['price'])

price = (bid\_price + ask\_price) / 2

return stock, bid\_price, ask\_price, price

def getRatio(price\_a, price\_b):

""" Get ratio of price\_a and price\_b """

""" ------------- Update this function ------------- """

if price\_b == 0:

return

else:

return price\_a / price\_b

# Main

if \_\_name\_\_ == "\_\_main\_\_":

# Query the price once every N seconds.

for \_ in iter(range(N)):

quotes = json.loads(urllib.request.urlopen(QUERY.format(random.random())).read())

""" ----------- Update to get the ratio --------------- """

prices = {}

for quote in quotes:

stock, bid\_price, ask\_price, price = getDataPoint(quote)

prices[stock] = price

print("Quoted %s at (bid:%s, ask:%s, price:%s)" % (stock, bid\_price, ask\_price, price))

print("Ratio %s" % getRatio(prices["ABC"], prices["DEF"]))